CHAPTER 9 ELECTRICITY COMPETITION AND HAWAII

9.1 Overview

Currently, Hawaii's four electric utilities are regulated monopolies with franchise rights to sell electricity to retail customers in their service territories. The utilities are regulated by the Hawaii Public Utilities Commission, which sets rates and approves the utilities' integrated resource plans. On the Mainland, many states are restructuring their utilities' business and financial structures to provide for increased competition at the wholesale and retail levels.

This chapter discusses the actions of the Hawaii Public Utilities Commission in its pending consideration of electricity competition and examines possible electricity competition in Hawaii. The following discussion does not attempt to summarize the positions of all parties. Instead, it will focus on DBEDT's view of the situation and recommendations submitted to the Commission for its consideration. It will also briefly summarize the HECO companies' proposal for modifications to the current system, as an alternative to implementing competition, which the HECO companies oppose.

9.2 Electricity Competition on the Mainland

The main stimulus for electricity competition nationally was the passage of the Energy Policy Act of 1992 (EPACT), which expanded the opportunities for wholesale competition and permitted the introduction of more market entrants on the generation side of the electricity business.

In 1996, the Federal Energy Regulatory Commission (FERC) issued Orders No. 888 and 889. Order No. 888 essentially required all electric utilities under FERC's jurisdiction to file so-called Open Access Transmission Tariffs. FERC mandated that all users of transmission facilities be treated on a basis comparable with that of the utilities. Order No. 889 set up a new information system intended to permit transparent use of information on transmission pricing and capacity availability to facilitate use of bulk transmission facilities.

As of September 1999, twenty-two states had enacted legislation or promulgated regulations establishing retail competition. California, Massachusetts, Pennsylvania, and Rhode Island have fully implemented competition. Delaware, Illinois, and New Jersey were to begin implementing competition before the end of the year. Arizona, Arkansas, Connecticut, Delaware, Illinois, Maine, Maryland, Montana, Nevada, New Hampshire, New Jersey, New Mexico, Ohio, Oklahoma, Oregon, Texas, and Virginia had enacted restructuring legislation. Michigan, New York, and Vermont had issued comprehensive regulatory orders. Most of the other states, including Hawaii, are actively considering competition. (USDOE 1999d).

At the federal level, in April 1999, the Clinton Administration submitted a proposed Comprehensive Electricity Competition Act to Congress for consideration.

> The Act: (1) encourages States to implement retail competition; (2) protects consumers by facilitating competitive markets, enhancing

> information flows, and outlawing various customer abuses, such as "slamming" and "cramming"; (3) assures access to and reliability of the transmission system; (4) promotes and preserves public benefits, including support for renewable energy and energy efficiency; and (5) . . . ; (6) protects the interests of rural and remote communities and Indian tribes; and (7) amends existing Federal statutes to clarify Federal and State authority (USDOE 1999c, vii).

Within Congress, a variety of related legislation has been proposed. Some proposals mandate retail competition for all states and others leave it up to the states

Because Hawaii, unlike the contiguous 48 states, Hawaii does not have electricity moving in interstate commerce, FERC jurisdiction does not generally apply. Thus, Hawaii may not be subject to certain newly proposed federal mandates. The *Comprehensive Electricity Competition Act* takes this into account by specifically giving Hawaii the option to participate in certain aspects of the Act, for example, the Public Benefits Fund, while exempting it from other requirements of the Act (USDOE 1999a, 31).

9.3 The Proceeding on Electricity Competition for Hawaii

The possibility of electricity competition is being investigated in Hawaii. On December 30, 1996, the Public Utilities Commission issued Order Number 15285, opening Docket Number 96-0493, *Instituting a Proceeding on Electric Competition, Including an Investigation of the Electric Utility Infrastructure in the State of Hawaii* (PUC 1996a).

In its order, the Commission noted,

> Although Hawaii's stand-alone island energy systems are a contrast to the interconnected systems of the contiguous states, and the effects of federal plans and proposals are uncertain, we also recognize the need to prepare for a competitive electric industry environment in the State of Hawaii.
>
> In the transition to a competitive electric industry in Hawaii, competition and industry restructuring are expected to radically change the manner in which electricity services are planned, priced, and provided. Competitive issues are being raised by electric industry shareholders and by the State legislature. Furthermore, pending initiatives in the United States Congress to mandate retail competition could significantly impact the State's energy system and entire energy community.
>
> In light of all of the above, a proceeding is in order to examine the issues related to the introduction of competition in the electric industry in the State of Hawaii. A thorough examination of the issues will help the commission determine the potential impacts of

> competition, the feasibility of various options, and the appropriate extent to which competition should be encouraged for the overall benefit of all consumers. Our foremost concern is to ensure the long-term efficiency and reliability of the State's energy systems and the availability of safe, affordable, and equitable electricity services to Hawaii's citizens (3-5).

The Commission made the Consumer Advocate and the four electric utilities parties to the docket and invited all interested stakeholders to participate in the docket (5). The Commission directed that a collaborative group be established to discuss and narrow the issues. To initiate the discussion, the Commission posed a set of twelve preliminary issues and questions to be addressed (7-10).

On January 6 and 7, 1997, the Co-Chairs of the Senate Consumer Protection Committee and DBEDT co-sponsored a two-day Informational Briefing on Contemporary Issues in Electrical Utility Regulation that was held in the Hawaii State Capitol Auditorium. The meetings examined the implications of deregulation and increased competition in the electric utility industry for Hawaii.

The Commission issued Order No. 15371 on February 20, 1997, granting intervention status to the Waimana Enterprises, the US Department of Defense, the DBEDT, GTE Hawaiian Telephone; Hawaii Renewable Energy Alliance (HREA), Puna Geothermal Venture, Life of the Land, International Brotherhood of Electrical Workers Local 1260, County of Maui, County of Kauai, County of Hawaii, AES Hawaii, and Enserch Development Corporation. The Association for Competition in Electricity was given participant status without intervention. The parties were ordered to provide the Commission, by March 31, 1997, with Pre-hearing Conference Submissions covering a number of issues specified in the order (PUC 1997).

The parties provided their Pre-hearing Conference Submissions. On May 28–29, 1997, the parties participated in two days of discussions on electricity competition, sponsored by the Commission. A variety of experts made presentations on electricity competition on the Mainland.

Over the next year, the parties, meeting as the Competition Collaborative, attempted to discuss and narrow the issues, and if possible, to reach consensus. Due to the diverse views and interests involved, reaching consensus proved impossible. As a result, the Collaborative ultimately decided to provide the Commission with a collection of position papers produced by each of the parties. Initial drafts were discussed at a meeting at the end of June 1998. Many parties provided comments on other parties' papers for the other parties' consideration. The papers were then finalized and provided to the Commission on October 19, 1998.

9.4 Benefits of Electricity Competition

Some objectives of electricity competition include:

- Reduced cost of electricity for all customers and an improved economy;
- Stimulation of greater energy efficiency;

- Encouragement of the use of advanced, diverse generation technology;
- Greater use of renewable energy and diversity of supply;
- Consumer choice of electricity supplier; and
- Improved consistency with State energy policy.

9.4.1 Reduced Cost of Electricity and an Improved Economy

9.4.1.1 Hawaii's Average Electricity Revenues Were the Highest in the Nation in 1997 (and Were Second Highest in May 1999)

In 1997, average revenue per kilowatt-hour in the United States was $0.069 (EIA 1998g, 42). Hawaii's statewide average electricity revenues were $0.125 per kWh in 1997, 182% of the U.S. average and the nation's highest. Hawaii's total electricity sales revenues, at over $1.17 billion, represented 3.4% of Hawaii's estimated 1997 GSP of $ 34.2 billion dollars (DBEDT 1998f, Table 13.02). By May 1999, Hawaii's average electricity revenues dropped to $0.114 per kWh, second highest in the nation behind New Hampshire at $0.117 per kWh. The national average in May 1999 was $0.647 per kWh (EIA 1999b, 62). To the extent that electricity competition in Hawaii could reduce electricity costs, more money could be available for Hawaii's citizens to use for other purposes, benefiting non-utility sectors of the economy.

9.4.1.2 Hawaii's Revenues Grew Faster than U.S. Average and Consumer Price Index

Hawaii's electricity revenues grew faster than U.S. average and faster than the consumer price index between 1990 and 1997. By 1997, Hawaii average revenues per kWh were 39.2% higher than 1990 (Utility FERC Reports 1998) while the U.S. average was only 4.2% higher (EIA 1998g). In addition, between 1990 and 1997, average electricity revenues increased by 39.2%, while the consumer price index for all urban consumers in Honolulu grew 24%. The overall U.S. consumer price index increased by 23% during the same period (DBEDT 1998f, Table 14.02). The difference between the growth of Hawaii and U.S. average electricity revenue per kWh should be explored further, as recommended in section 7.2.2.4, whether or not competition is initiated in Hawaii.

9.4.1.3 High Electricity Revenues Reduce Economic Performance and Cost Jobs

DBEDT's Research and Economic Analysis Division used the State of Hawaii Input/Output Model to examine the effects of various growth rates of electricity revenues on Hawaii's economy (DBEDT 1998f). Had electricity revenues grown at the U.S. average, Hawaii's GSP in 1997 would have been $876.32 million, or 1.0031 times greater. If revenues had grown at the Honolulu Consumer Price Index rate, the GSP would have been $109.2 million, or about 0.1% higher (DBEDT 1998f).

High electricity revenues also tend to reduce employment. Using the same scenarios, the number of jobs that would have been generated in Hawaii under the

growth-rate scenarios for electricity revenues was estimated. If electricity rates had grown at the US average, it was estimated that there would have been 5,292 more jobs in 1997. If electricity revenues had grown at the same rate as the Honolulu CPI, there would have been about 2,048 more jobs in 1997 (DBEDT 1998f).

9.4.1.4 Electricity Prices and Hawaii's Economic Competitiveness

While Hawaii does face larger transportation and local market costs, the narrowing of regional differences and coincident decrease in electricity costs occurring in Mainland power markets due to restructuring suggests the need for Hawaii to reduce its electricity costs to maintain economic competitiveness (see EIA 1998e, 2).

9.4.2 Reduction of Costs and Greater Energy Efficiency

9.4.2.1 Can Competition Reduce Electricity Costs?

The authors of *Consumer Choice, Consumer Value: An Analysis of Retail Competition in America's Electric Industry* estimated that rate reductions from 1994 of about 26% would be possible in Hawaii under competition (Maloney, 1996, xxiv). An extensive review will be necessary to assess the potential for rate reductions.

Competition can result in electric power at a lower price when it is being sold in excess of marginal cost. In Hawaii, this applies particularly to excessive charges levied on off-peak consumers. Early implementation of changes in rate design, as well as adoption of time-of-use rates, could be helpful in relaying proper price signals to consumers, enabling utilities to reduce long-term costs.

9.4.2.2 Sources of Potential Savings from Competition

A critical first step to competition is a clear decision that all new generation requirements will be subjected to competitive bidding. In the *Oahu Power Market Study* (GDS 1998), DBEDT's consultant, GDS Associates, suggested additional ways that electricity costs in Hawaii could be reduced. As the title suggests, the review focused on Oahu, and additional analysis would be required to determine whether these conclusions are valid for any or all of the neighbor islands. Based upon this analysis, electricity costs could be reduced through the following measures, if authorized:

- Restructuring of existing power purchase agreements;
- Renegotiation of existing fuel supply agreements;
- Reduction in non-fuel power production operations and maintenance expenses;
- Reduction in Oahu reserve generation capacity;
- Increased generating and dispatch efficiencies;
- Improvements to generation siting process;
- Cost reductions through new generating technology; and

- Market incentives for retirement of inefficient units (GDS 1998, 15-19).

9.4.2.3 Stimulation of Greater Efficiency with Time-of-Use Pricing

With Hawaii's high electricity prices, energy efficiency measures can be highly cost-effective and should be encouraged for economic growth. Competition could create the needed price signals to encourage greater energy efficiency. For example, time-of-use pricing has been used on the Mainland for at least two decades to stimulate energy efficiency. This should be used not only on the commercial level, but at the residential level as well. Electricity providers may offer, on their own initiative (or they could be required to offer) such pricing in a competitive environment.

9.4.3 Encourage Use of Advanced, Diverse Generation Technologies

On the Mainland, it is economically feasible in many instances to replace older and relatively inefficient existing generating facilities with new gas-fired DTCC combustion turbines due to their significantly higher efficiencies and relatively lower capital and operating costs. Although natural gas resources are not available in Hawaii, similar efficiencies may be achieved from oil-fired DTCC units. Further analysis is needed to determine whether it would be economically feasible to replace some of Hawaii's older, relatively inefficient, existing generating facilities with advanced generating technologies before their scheduled retirement.

9.4.4 Greater Use of Renewable Energy and Diversity of Supply

9.4.4.1 Renewable Energy

While Hawaii's utilities led the nation in installing renewable energy in the early 1980's, they have not installed new grid-connected renewable energy generation in recent years. In recent IRPs, some utilities have taken the position that renewable energy would not be cost effective, but nonetheless Renewable RFPs would be issued to invite renewable developers to submit proposals to provide energy at or below avoided cost. In the 1990's, geothermal, hydroelectric, and wind developers have been able to negotiate power purchase agreements at or below avoided cost. However, incentives may be needed under restructuring, until some sunset date. Renewable resources could be a significant contribution to a more competitive electricity market. Some customers will buy renewable energy, even at greater cost, due to their concern for the environment. Furthermore, any needed renewable energy programs can be designed in a manner that will prevent a materially adverse effect on the development of competition.

9.4.4.2 Diversification of Energy Supplies

One critical reason for encouraging diversity of energy supplies is to help reduce economic dislocations in the event of an oil emergency. Although oil prices are currently at very low levels, Hawaii continues to face risks as the most oil dependent state in the Nation.

9.4.5 Customer Choice of Electricity Supplier

Under competition, customers would have a choice of electricity suppliers. While electricity is a commodity, suppliers could bundle other services with electricity, such as telephone service, cable TV, and Internet access. Suppliers could also offer environmentally minded customers the opportunity to buy cleaner power or more renewable energy than competitors offer, perhaps at a price premium in the near term.

9.4.6 State Energy Policy

The primary reason for DBEDT's participation in the competition docket is to satisfy its statutory responsibility, under HRS, Section 196-4, for formulating plans, objectives, and criteria for optimum development of energy resources and to conduct systematic analysis of existing and proposed energy resource programs of Hawaii's electric utilities. DBEDT believes that electricity competition in Hawaii can and should be structured to comport with the state's statutory energy objectives.

9.5 Possible Competition in Hawaii

Competition in Hawaii could take a number of forms. In its position paper, DBEDT believes that generation, energy services, and retail sales of electricity should be subject to competition. Transmission and distribution of electricity should remain as regulated monopoly services. Creation of an Independent System Operator (ISO) should help facilitate wholesale and retail competition and reduce market barriers and the market power of the incumbent providers. Furthermore, retail aggregation options could be established. These options would create the best opportunity for commercial and residential customers to benefit from electricity restructuring. The following considers a variety of possible options ranging from the current situation to full competition.

9.5.1 Hawaii's Current Competitive Situation

There is limited competition in electricity generation in Hawaii under current law. In 1997, about 40% of the electricity sold to customers by Hawaii's utilities was purchased from NUGs and cogenerators. However, if Congress were to repeal the Public Utilities Regulatory Policy Act (PURPA), as has been proposed, Hawaii's utilities would have little incentive to enter into future contracts with NUGs, thus further reducing competitive pressures in Hawaii. One problem with the current system is that it leaves considerable control of the terms of the power purchase agreements with the utility. The utility sets technical requirements, establishes the avoided cost, negotiates, and accepts or rejects the proposed power purchase agreement, subject to approval of the Public Utilities Commission.

Under the present regulatory structure, building utility-owned generation is usually in the utility's financial interest. As a result, the current situation may not always result in a level playing field for an NUG or a timely agreement when an NUG meets all criteria for a power purchase agreement. This is suggested by several recent formal complaints to the Commission by NUGs related to power purchase agreement negotiations with HELCO (e.g., Docket 97-0102, Hilo Coast

Processing Company; Docket 94-0079 Enserch Development; Docket 7956, Kawaihae Cogeneration Partners). On the other hand, the other three electric utilities have recently negotiated and signed power purchase agreements in relatively short timeframes without any need for Commission intervention.

9.5.2 The HECO Concept for Increased Competition

The HECO Companies do not believe restructuring is feasible in Hawaii. As a result, they proposed an alternative approach that included three areas that "have the potential to provide many of the benefits of competition, while working within the existing regulatory system" (HECO Companies 1999, 115). These were (a) competitive bidding for new generation; (b) performance-based rate making; and (c) innovative pricing provisions.

9.5.2.1 HECO's Arguments Against Restructuring in Hawaii

HECO does not believe that full retail competition is possible in Hawaii. The company notes that each island has an independent power system served by a single utility, with some contracts for non-utility generation. The lack of interconnection between these systems contrasts with the situation on the Mainland, where numerous utilities are interconnected into systems encompassing many states throughout an entire region (1).

HECO also believes that the electricity markets on the individual Hawaiian Islands are too small to support multiple competitors and that the reduced economies of scale that would result from dividing these small markets among several competitors would offset other sources of potential cost advantage (1-3).

HECO states that "the implementation of retail generation competition would not be reasonable unless demonstrable benefits were reasonably expected to exceed the quantified costs" (4). The company expresses doubt that the hoped for benefits will materialize or that realized benefits will exceed the substantial transition costs. They cite the following main points:

- Transition costs would be incurred;
- Economies of scope and scale would be lost, increasing electricity prices;
- Transition, or stranded costs, must be addressed;
- The resulting generation market would still be relatively concentrated;
- Full competition assumes fully cost-based prices, which they expect would increase residential rates and rates on small islands;
- Competitors would concentrate on large customers (5-6).

9.5.2.2 HECO's Proposed Competitive Bidding for New Generation

This would increase competition slightly compared with the current situation in Hawaii, but it would be confined to new electricity generation. The HECO companies supported the use of competitive bidding "consistent with the unique structure of the electric power market in Hawaii" (115). While HECO stated that

it would "propose measures designed to mitigate self-dealing" (118), some in the collaborative group were concerned that the HECO plan was not truly competitive. The primary source of the concerns was that under the plan, the HECO companies – themselves potential competitors to build the generation – would draft the RFPs and determine eligible bidders (albeit using "an outside consulting firm . . . to oversee and audit the evaluation process") (118).

A process similar to the HECO plan has already been used successfully in Hawaii: Kauai Electric selected its next increment of generation from proposals by NUGs in response to a request for proposals as an alternative to adding its own generating unit.

9.5.2.3 Performance Based Rate Making

HECO's performance-based rate making (PRB) proposal is complex and will not be described fully here. The plan included an index-based price cap, an earnings sharing mechanism, and a benchmark incentive plan. HECO stated that the plan is intended to strengthen incentives to enhance operations efficiency, to lower barriers to market-responsive rates and services, and share the benefits of improved performance with customers (119). It should be noted that by the company consultant's admission, Hawaii's electricity consumers would have paid more under the PBR proposal offered by HECO than under continuation of existing regulation. It was not clear from HECO's position paper whether their PBR proposal was offered with the expectation of reducing future prices or, at least, reducing future price increases.

Recently, the U.S. Energy Information Administration evaluated PBR. Their conclusion was as follows:

> To the extent that PBR plans lead to a decline in rates, their implementation may be preferable to the traditional regulatory approach. This possibility rests on the capability of PBR plans to respond more effectively to external changes that may cause other quality of service issues to be overlooked. Inadequacies in monitoring and evaluation could also lead to unintended results. PBR plans surveyed in this report [the EIA report] are all relatively recent. As such their effectiveness in reducing costs has yet to be determined (EIA 1998g, xi).

9.5.2.4 Innovative Pricing Procedures

HECO stated that its pricing proposals seek to achieve most benefits of competition, including "efficient pricing to provide accurate price signals, increasing customer choice, and lower energy cost to customers by offering them alternative rates that empower them to control their energy costs" (120). A variety of rate and service options would be offered to customers, who would theoretically select the option that provided the level of electricity service they wanted. These are intended to be similar to the options offered by electricity marketers under competition.

9.5.2.5 Implementation of HECO's Proposals

HECO stated that it intended to file applications for PUC approval of these proposals in 1999 and 2000. DBEDT and some other parties stated in their Statement of Position that such proposals should be considered only after the Commission decides on the form of competition that might be implemented in Hawaii under the current docket.

9.5.3 The Gas Company's Concept for Increased Competition

Several parties' Statements of Position on competition in the electricity industry observed that gas-on-electricity competition was one feasible form that that competition could take in Hawaii's small, island markets. SNG and LPG are alternatives to electricity for numerous uses, including water heating, drying, cooking, and some types of lighting. The Gas Company has argued in several forums that artificial regulatory barriers to interfuel competition should be eliminated.

The Gas Company has advocated modifications to the existing IRP Framework so that electric utilities can no longer escape screening SNG or LPG as DSM options, or fuel-switching to SNG or propane as alternatives to the construction of new generation or transmission and distribution (T&D) systems. In addition, it has supported dispersed generation and cogeneration using SNG or propane as fuels. The Gas Company has also argued for the elimination of regulatory electricity rate subsidies for proposed line extensions, and upstream reinforcements necessary to serve new load. Instead, regulated utilities should, according to The Gas Company, be required to charge new customers rates sufficient to fully recoup the marginal cost of new electric lines, just as non-regulated competitors must price new service to additional customers (Gilman and Golden 1999, 8).

9.5.4 Unbundling the Electricity System for Competition

Under the current system, as depicted in Figure 9.1, the Hawaii electricity system is a vertically integrated, regulated business. Each utility in Hawaii owns all three components of the system – generation, transmission, and distribution – in its service territory.

The separation of the vertically integrated utility into its three component parts is called unbundling. Under competition, these distinct functions could be performed by separate entities. This could come about by divestiture of all but one element by existing utilities so that each component would be owned by a separate entity. Thus, there could be competition among several generation owners. Retail power marketers might then be able to offer electricity from a variety of sources to electricity shoppers. Electricity would reach the purchaser through regulated T&D systems. The latter two elements might be under one owner, but would remain regulated.

Another alternative would be "functional unbundling," under which divestiture would not be required, but the utility would be required to set up independent subsidiaries that could not coordinate their business activities.

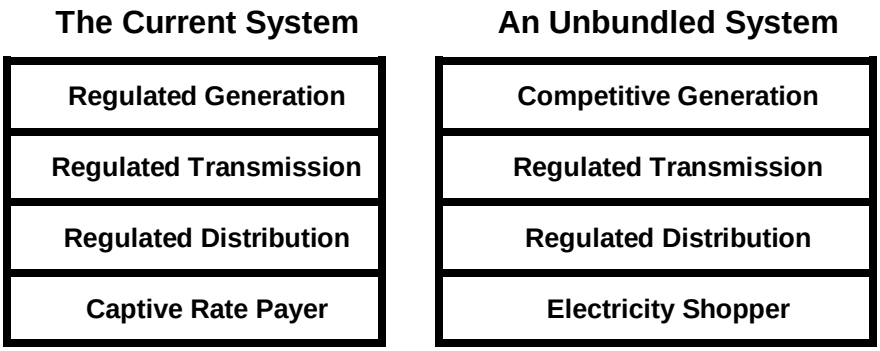

Figure 9.1 Comparison of the Current System with an Unbundled System

This way, competitors would be on an equal footing with the competing element of the former utility. FERC Order 888, which concerns open access, requires the following of unbundled utilities and could serve as a guide for Hawaii:

- Utilities must take transmission services (including ancillary services) under the same tariff of general applicability as do others;
- Utilities must state separate rates for wholesale generation, transmission, and ancillary services;
- Utilities must rely on the same electronic information network that its transmission customers rely on to obtain transmission information (EIA 1996b).

Clearly, the generation function, as already demonstrated by participation of non-utility generators in the Hawaii system, is the easiest portion to unbundle. Transmission and distribution will likely remain regulated in the near term, although Maloney suggests that transmission may ultimately prove to be competitive as well, at least on the mainland. He also suggests that regulated transmission and distribution should have a new form of regulation rather than traditional rate of return (1996, v).

Another consideration in Hawaii is the differences in the size of the six independent island systems. The question posed by some parties to the Competition Docket is whether the systems, even on Oahu, are large enough to support competition.

9.5.5 Implementing Competition in Hawaii

Competition could be undertaken by separating the vertically integrated utilities into their component parts – functionally unbundling Hawaii's utility system. To start, current bundled electricity rates should be unbundled to provide separate charges for the following:

- Generation services (with separately identified charges for back-up services to large customers);
- T&D services (with separate identification of any non-bypassable charges for customers who chose a third-party generation supplier);

- Metering services;
- Billing services; and
- Conservation and energy management services.

There should be separate accounting treatment of each functional category to prevent cost shifting and cross-subsidization.

9.5.5.1 Unbundling Through Divestiture

Ultimately Hawaii's utilities could become separate generation, transmission and distribution, and customer service entities. Customer service entities could also be separated, in the same manner as rates are unbundled, into metering, billing, and conservation and energy management services entities. Although additional study is required to determine the best option for Hawaii, unbundling can generally be done through divestiture of all but the T&D functions of existing utilities so that each component would be owned by a separate entity. The T&D functions would remain regulated.

9.5.5.2 Transmission and Distribution Would Remain a Regulated Monopoly

DBEDT recommends that T&D services remain regulated. The Commission should develop and implement rules that would open access to, and establish fair pricing for, electricity company T&D services.

9.5.5.3 Retail Competition Could Be Established

On the Mainland, retail competition, and the promise for its expansion, has led to new market combinations. These combinations have included electricity and natural gas companies, as well as energy efficiency providers, home security services, telecommunications providers. Retail competition also has promise for home banking, computing, cable, fiber optic, home office programs, and other services.

With retail competition comes the opportunity for aggregation of retail loads. For example, in Hawaii various aggregations could occur, such as groups of hotels, the Defense Department facilities, hospitals, all state and local government buildings, and among other commercial customers.

With retail aggregation comes the concern that individual residential consumers may be left behind. Therefore, any retail aggregation program must recognize the needs of residential consumers of all types and of varying financial means. In fact, facilitation of aggregation programs involving residential customers could be the most significant method for this class of customers to benefit through restructuring.

In addition, provisions would be needed to allow for distributed generation on the system. Customers who install their own generation at their facilities and have excess power to sell to others will need access to the transmission/distribution system

9.5.6 RECOMMENDATION: Consider Restructuring Hawaii's Electricity System

Suggested Lead Organization: Public Utilities Commission

DBEDT and the other parties to the Competition Docket submitted position papers to the Commission on October 19, 1998. The parties await the results of the Commission's consideration of the Position Statements. The Commission is encouraged to take further action in this docket in the near future to restructure the electricity system in a form appropriate for Hawaii's citizens, their economy, and their environment.